



TCP's Reaction To Soft Errors

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IETF 61, Washington, DC, USA
November 9, 2004



Overview

- There are a number of scenarios that can lead to long delays between connection establishment attempts
- This document proposes to change TCP's reaction to soft errors to avoid these potential delays



Issues raised at IETF 60

- The proposed fix could lead TCP to abort connections that would otherwise succeed some time later
- Why not issue several connection requests in parallel?



Connections being aborted unnecessarily

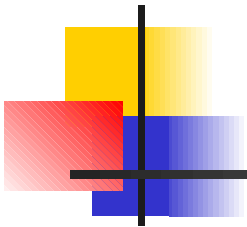
- **Practice indicates this seldom occurs**
 - ✓ The proposed fix has been implemented in the Linux kernel since 1996
 - ✓ BSD systems already limit the timeout to 75 seconds
- For rare scenarios, a system-wide toggle to override the default behaviour could be provided
- For interactive applications, there's no real success after waiting several seconds
- Non-interactive applications usually implement application-layer retries

□



Why not parallel connection attempts?

- Try every IP address available, in parallel
 - x Hard to distinguish valid connection requests from a DoS attack.
- Wait some time before trying each address
 - x Will likely still lead to long delays, or else will still be hard to distinguish from a DoS attack
- x Both would take a long time to kick in, would increase application complexity, and would require every existing application to be modified



Next steps

- Take as WG document?